平成 28 年度　環境科学院　修士論文内容の要旨

Forest Cover Change and Participatory Forest Management of Lembus Forest, Kenya
（ケニア，レンバス・フォーレストの森林被覆変化と住民参加型管理）

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Forests are a vital resource supporting the livelihoods of rural communities in Kenya. In spite of this significant role, human activities have put increased pressure on this resource leading to continued forest cover decline. To address forest cover decline, the Kenyan government introduced Participatory Forest Management (PFM) through its Forest Department in the early 2000s, enabling local communities to form and register Community Forest Associations (CFAs). This study was conducted to examine the impacts of the PFM approach on the Lembus Forest cover change. The study period was divided into two: 1st period (1985–2002) to represent the period before adoption of PFM, and 2nd period (2002–2015) to represent period, during which PFM approach was embraced. Three Landsat satellite images (Landsat 5 TM acquired on 09th January, 1985; Landsat 7 ETM+ acquired on 01st February, 2002; and Landsat 8 OLI acquired on 01st March, 2015) were used to analyse forest cover changes. ALOS AVNIR 2 satellite image acquired on 28th April, 2009 was used to develop forest cover map. In analysing the contribution of CFAs in conservation and management of the Lembus Forest, questionnaire sheets were distributed randomly to various residents living adjacent to the Lembus Forest; 327 valid responses were obtained from heads of households. We also conducted field study at selected locations within Okayama, Hokkaido and Gifu prefectures, to learn and apprehend the contribution of forest decentralization and community participation in forest management.The results of the land cover change show a decrease in the percentage of forest cover decline from 11.2%, registered in the 1st period to 8.2% in the 2nd period. This led to the decrease of the annual rate of the forest cover decline from 0.4 in the 1st period to 0.2 in the 2nd period. Three CFAs operate in this area and 75% of the respondents participated in tree planting and 16% participated in tree pruning. This type of community participation is thought to be most likely the cause of the decline of the recent decreasing annual rate of forest cover loss in the study area. Conversely, we found out that important initiatives, such as a forest patrol, had not been implemented due to lack of funding and that CFAs and Kenya Forest Service had not yet signed any management agreement.